



Accelerated Education – Is it worth it?

Nicholas Kessinger, Hunter Matthews, Kaitlynn Wheeler

Mentor: Dr. Michael W. Kessinger, Assistant Professor of Education

Morehead State University



Abstract

Over the past few years, the Commonwealth of Kentucky has attempted to increase the access of gifted education for every student. Even more recently, the state has established a new program at Morehead State University: The Craft Academy. With all these changes, one is left to ask: “Is it worth it?” Little research has been done to determine the impact of gifted students receiving accelerated learning, and even the impact of the learning taking place within a residential setting. This study examined one instance of an accelerated learning opportunity, students enrolled at the Craft Academy, and analyzes the impact taking college level courses has had on the students’ ACT score. This investigation looked at the ACT performance as reported on the application of students accepted into the Craft Academy, the ACT composite score taken in March 2016, along with the first semester GPA of those students. Results indicated a significant increase in ACT performance. In addition a significant correlation existed between the ACT scores and the first semester GPA.

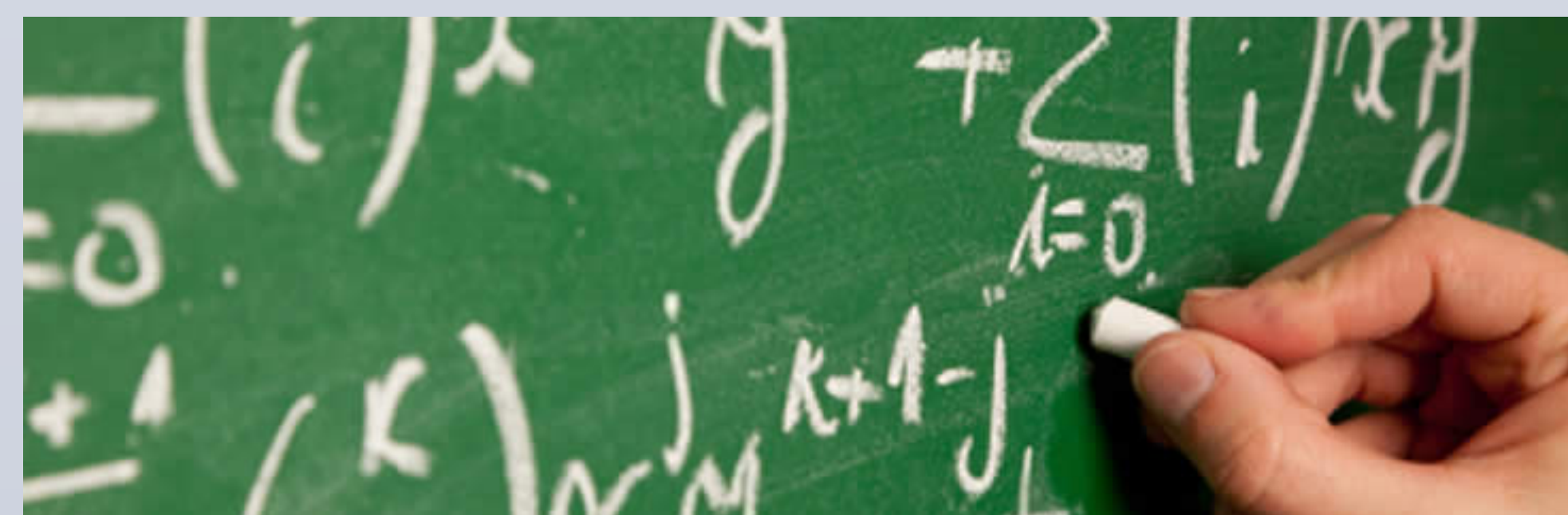
Introduction

Three million. There are three million gifted and talented students across the United States (Callahan, Moon, Oh, Azano, & Hailey, 2015). More often than not, these three million students are overlooked, and never considered on the political level. This overshadow is due largely in part to the lack of research in this field, but does that make it justified? Of course, no large sum of money should be invested unless it has a proven effect, but that’s the key. Is gifted education effective? How does gifted education impact the individual? Is it worth it? And what does it take? Clearly, there are still questions left to answer about gifted education. As more and more accelerated programs pop up across the Commonwealth of Kentucky, more and more curiosity revolves around the field of gifted education. In recent years, the Commonwealth has instated many new programs destined to bring achievements to every gifted student in the state. The Craft Academy at Morehead State University is one of these new programs. Founded in 2014 with a large donation from Joe Craft, the Academy opened its doors to 60 gifted students from all over the Commonwealth in 2015 (Morehead State University, 2016). The academy provided students the chance to live on Morehead’s campus, while taking college level classes. In essence, this gave all students the chance to take two years of college level classes, all expenses paid (with the help of the Kentucky Legislature). Clearly, this is beneficial to the future of Kentucky (Eastern Kentucky, specifically) by allowing the future generations of Kentucky to prosper. However, whether or not it is beneficial to the academic development of the students has yet to be determined. This study compared the ACT scores of the students when they first applied, and their score on the state-mandated April test date along with their first semester GPA.

Literature Review

There is little research in regard to gifted education. Most research is specific to the teaching module. One study showed that the CLEAR teaching module proved to be beneficial to gifted students. CLEAR is a teaching method that is based upon five elements: “Continual Formative Assessment, Clear Learning Goals, Data-Driven Learning Experiences, Authentic Products, and Rich Curriculum,” (Callahan, Moon, Oh, Azano, & Hailey, 2015). This style of teaching was theorized to be the most effective for academically bright students; however, no empirical evidence had been provided to prove this. Out of 1,215 students tested, those placed within the treatment group performed higher, on average, on a national test (Iowa Tests of Basic Skills). This study proves that the way material is presented may be more effective for gifted students than simply more difficult content.

Although the specific teaching method has proven to have an impact on students’ ability, this didn’t coincide with the research behind this study. The Craft Academy is not a different teaching approach, it is an accelerated opportunity, the chance for high school students to take college level classes. According to studies dealing specifically with accelerated opportunities, “the use of enrichment, differentiation, acceleration, and curriculum enhancement has resulted in higher achievement for gifted and talented learners,” (Reis & Renzulli, 2010). One study claims that when students are able to opt out of work that they already were capable of doing, and trading that in for more enriching work, they receive higher scores (Reis, Westberg, Kulikowich, & Purcell, 1998).



<http://ms.gov/content/Pages/Education>

Data Collection

For the 2015-2016 school year, the Craft Academy for Excellence in Science and Mathematics began accepting application for students in early January 2015. The application process included the student’s GPA and ACT score. The only specific requirement was a 24 on the mathematics section. Then, in the Spring semester of the students’ Junior year, students were required to take the state mandated ACT. All of these information was kept on file with the Craft Academy administration, as well as the students’ first semester GPA. Once this information was obtained, and any qualifier removed, the data were compiled into a single worksheet. From here, we generated a bar graph of the entering ACT and Spring ACT. The mean and standard deviation were also computed for the three data sets for reporting purposes. A two-tailed paired t-test was used to determine if there was a significant difference between the ACT composite scores, as submitted with the Craft Academy application, and the ACT required of all juniors taken in March. A Pearson’s R correlation coefficient was calculated for each possible pair for the two ACT composite scores and the first semester GPA.

Results

Entering vs Spring ACT

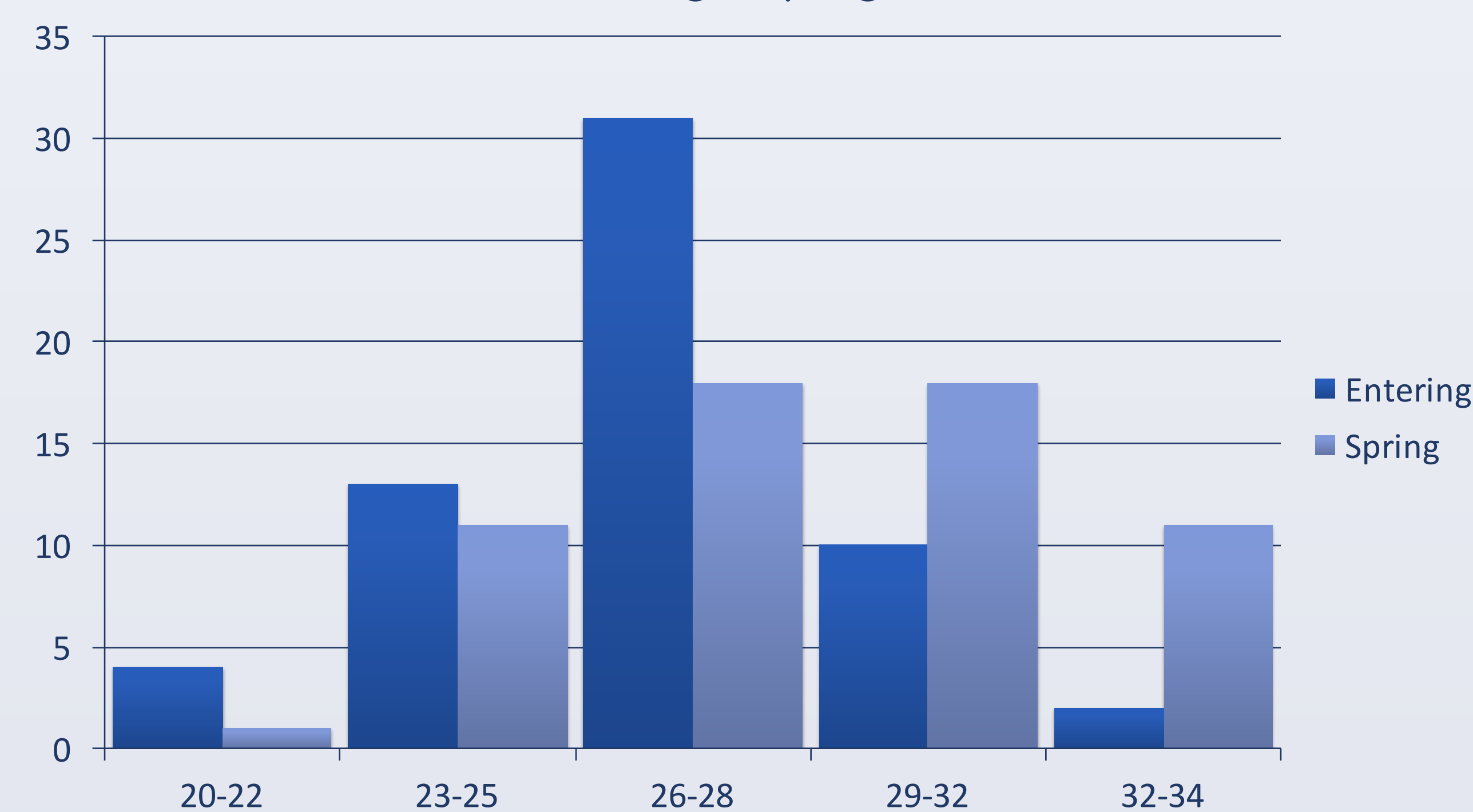


Table 1

Descriptive Statistics (N=59)

	M	SD
Entering ACT Composite	26.695	2.799
Spring ACT Composite	28.339	3.055
First Semester GPA	3.468	0.456

Table 2

t-test Computation between Entering and Spring ACT Composite

	N	M	SD	df	t	p	d
Entering	59	26.695	2.799	58	6.741	0.000	0.88
Spring	59	28.339	3.055				

Table 3

Pearson’s R Correlation: ACT Scores and GPA

	Spring	First Sem GPA
Entering	0.721 **	0.279 *
Spring		0.332 *

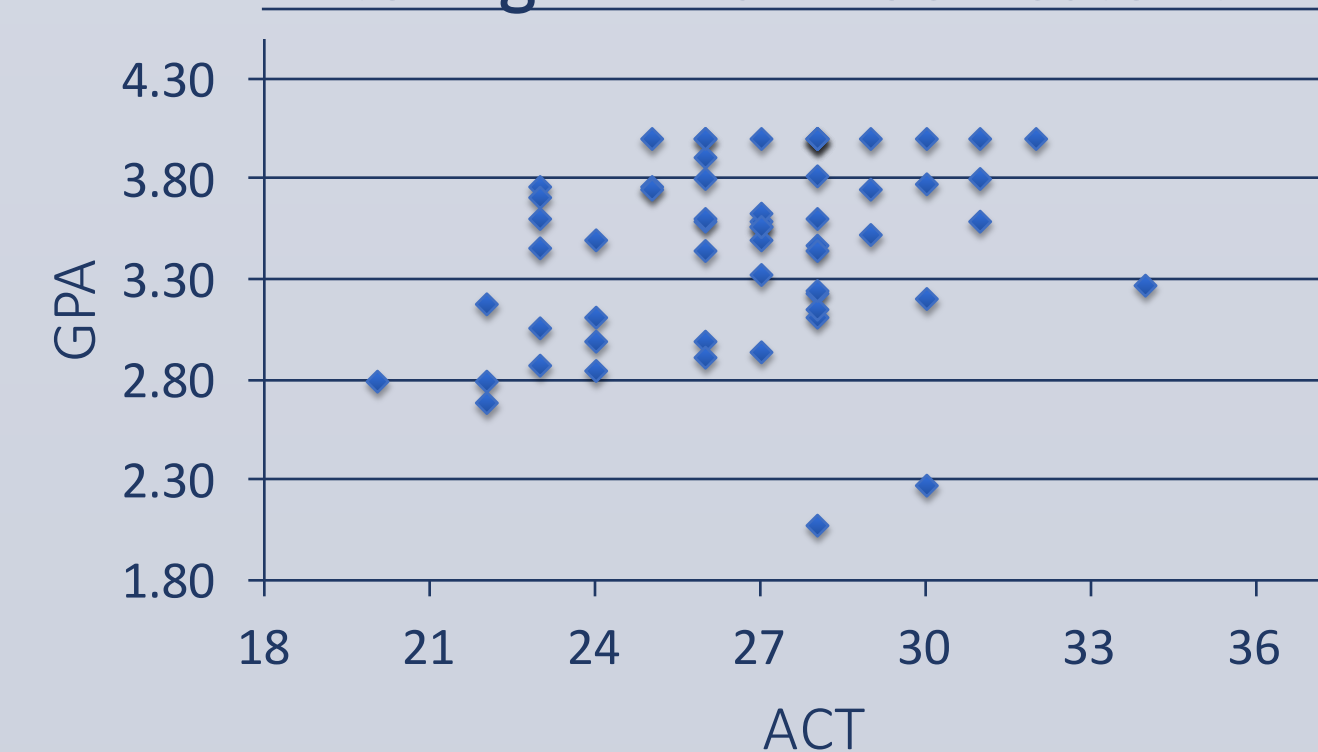
* Significant at 0.05 level

** Significant at 0.01 level

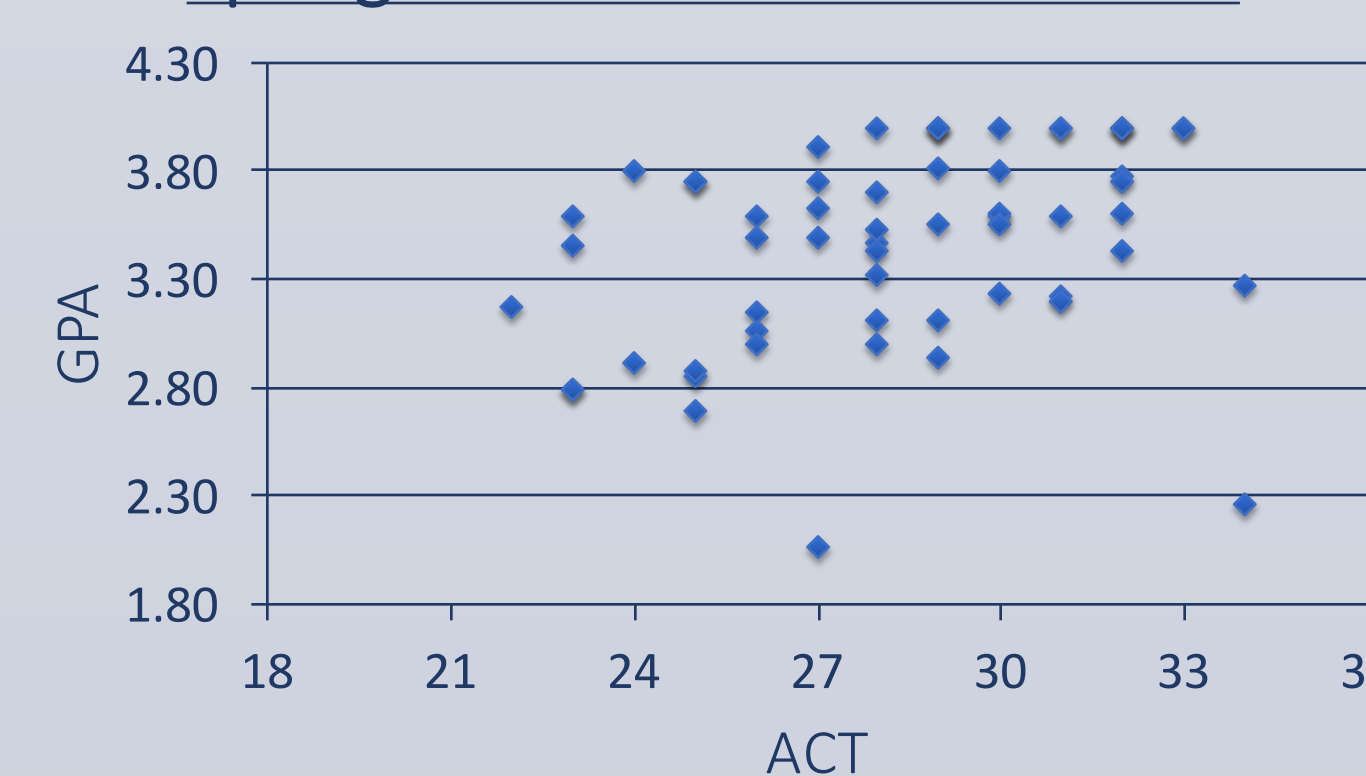
Entering vs Spring ACT



Entering ACT vs 1st Semester GPA



Spring ACT vs First Semester GPA



Conclusion

From a quick review of the descriptive statistics, one can see that there was a change in the average ACT from entering the Craft Academy compared to the Spring testing date. According to the t-test results, the Spring ACT mean performance was significantly greater than the entering ACT mean scores. Therefore, the rejection of the null hypothesis is warranted, $t(58) = 6.741$, $p = 0.000$, $d = 0.88$. What does this mean? The results might indicate that when students have the opportunity to take one and a half semesters of college, this could lead to higher ACT scores. As a matter of fact, 88.1% maintained or improved their previous ACT composite score, leaving only 11.9% with a decrease from prior performance. Of those students who increased, there was an average increase of 2.6 points. For those who dropped, there was an average decrease of 1.4 points. We can conclude that two semesters of college had allowed, in general, students to perform better on the ACT.

Results also indicated significant correlations between the variables investigated. A Pearson’s r of .721 existed between the entering ACT scores and the Spring ACT score. This indicated a strong correlation between the two ACT performances. On the other hand, there is a weak correlation, although significant, between ACT scores and the first semester GPA (see Table 3). The small Pearson’s r between the first semester GPA and the incoming ACT score indicated that the ability to predict one from the other is relatively low. However, this relationship needs further investigation (perhaps with a larger sample) to further investigate possible connections as there is typically a transition period from typical high school to the first year of college. Colleges use students’ ACT scores in order to place them into classes the first semester, so it is important to note whether or not ACT score actually correlates with success or can be used as a predictor of a student’s GPA.



References

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Contact Information

Nicholas Kessinger: nmkessinger@moreheadstate.edu
Hunter Matthews: hcmatthews@moreheadstate.edu
Kaitlynn Wheeler: kgwheeler@moreheadstate.edu
Dr. Michael W. Kessinger: m.kessinger@moreheadstate.edu

Morehead State University: 150 University Blvd. Morehead, KY 40351

